

Abstract of the Disclosure

Disclosed is a stent introducer apparatus comprising a introducer catheter, usually comprising clear polytetrafluoroethylene, and a pusher assembly that is configured to be able to deliver a stent, such as a self-expanding stent, within a tortuous duct or vessel, even if the introducer catheter becomes kinked during the procedure. In an embodiment for use in the biliary system, the pusher assembly includes a first tubular portion, comprising a material with high column strength, such as polyetheretherketone, and a shorter second tubular portion, which is made of a highly flexible material such as metal-braided polyimide or nitinol tubing, that is divided into a distal, stent-carrying section and a proximal, flexible section. The second tubular portion may be made of a smaller diameter than the first tubular portion to reduce possible impingement by the introducer catheter is the latter kinks during a procedure. At the junction between the stent-carrying and flexible sections is a pusher member to urge the stent from the distal end of the introducer catheter. In one aspect of the invention, the distal tip and pusher member tightly hold the stent to eliminate gaps so that the likelihood of the introducer catheter kinking at the contact point between the pusher member and stent is greatly reduced.